

To

Sir W. Hamilton Bt

My dear Sir

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OBSERVATIONS
ON THE
PREPARATORY EDUCATION
OF
CANDIDATES FOR THE DEGREE
OF
Doctor of Medicine,
IN THE SCOTTISH UNIVERSITIES;
HUMBLY SUBMITTED TO THE CONSIDERATION OF
HIS MAJESTY'S COMMISSIONERS
FOR VISITING THE UNIVERSITIES AND COLLEGES
OF SCOTLAND.

MDCCCXXVI.

C

P. Neill, Printer.

1367-4-39

MY LORDS AND GENTLEMEN,

HAVING been informed that one of the very important investigations in which you are at present engaged, relates to the qualifications of those who receive the degree of Doctor of Medicine in the Scottish Universities, I take the liberty to send you a copy of a short paper entitled “Hints,” &c. upon that subject, which, in the course of the summer of 1824, I addressed to the Patrons and Professors of the University of Edinburgh. The principal object of that paper was to recommend a stricter attention than had previously been given in this University to the literary and scientific qualifications of Candidates for Medical Degrees; and I have the satisfaction to know, that it expresses opinions with regard to these qualifications, very generally entertained by the better informed part of the Medical Profession in Scotland.

Although no improvement in regard to preparatory education was made in the Medical Curriculum subsequently framed for the University of Edinburgh, it is agreeable to perceive, that a due attention has been shewn to this subject, in the Regulations relative to Medical Degrees which

have been lately enacted by the Universities of St Andrew's and Aberdeen.

The differences in the conditions on which Medical Degrees are at present granted by the different Universities of Scotland, is a circumstance which cannot fail to attract your notice; and the public have reason to hope, that one of the great benefits to be derived from the very important commission with which you have been entrusted, will be the adoption of a more uniform system of Medical Education throughout the Scottish Universities.

It is only under a system in which an equal extent of qualifications for a Medical Degree shall be required by each of the Universities, that that fair and generous competition between these Institutions can be looked for, which it is so important for the interests of the public should be maintained.

Indeed, it may be doubted whether one of the greatest obstacles which has hitherto retarded the introduction of improvements in the courses of study required for obtaining a Medical Degree from the different Universities of Scotland, may not have arisen partly from want of cordial co-operation among these Institutions in the advancement of the important objects for which they have been founded, and partly from the apprehension which each University has respectively entertained, that, to raise the standard of qualifications required of its Graduates, might, in

operating prejudicially to its own interests, tend to promote those of its rivals.

In the slight sketch which I have given in the Hints of the Course of Education suitable for young Men destined for the Medical Profession, I have viewed it as Preparatory, and as strictly Professional.

I have endeavoured to shew, that the preparatory education ought to consist in the acquisition of a competent knowledge of the Latin and Greek Languages, of the elementary parts of Mathematics and Natural Philosophy, and of Logic and Moral Philosophy. That I have not overrated the advantages that would result to Students of Medicine from the possession of a knowledge of these preliminary branches of education, will, I believe, be readily acknowledged by every practitioner of experience; and it gives me much pleasure to be able to confirm my opinions on this subject, 1st, By laying before you those of three individuals of this place, who, like myself, took an interest in the improvement of the medical Curriculum of the Edinburgh University, and who from their talents, acquirements, and opportunities of observation, must be considered as very competent judges; 2dly, By a reference to writings in which the subject of the preparatory education of medical men is professedly discussed; and, 3dly, By alluding to the provisions made for this education in the statutes of different Universities on the Continent of Europe.

Dr Peter Reid, in a " Letter to the Patrons of the University of Edinburgh, on the Reform of Medical Education, necessary to give the public an adequate security for well educated men," observes * :

" The first and most serious defect of medical education at this place, arises from those entering on the profession not being necessarily required to have had the advantages of a liberal education ; no test of this is exacted, and a lad may therefore enter on his medical career in a pure state of nature, with his mind a perfect *tabula rasa*. Why the preliminary discipline of a liberal education should not be enforced in Medicine, as well as in Law or Divinity, is altogether unaccountable. There is no profession in which it is more necessary to apply the canons of sound logic, or to acquire the habits of accurate induction ; none in which error is more pernicious, and none exposed to more sources of fallacy. Those exercises, then, which open the understanding, and refine the taste,—which give freedom, range, and activity to the mind, form a necessary introduction to the study of medicine as a liberal science. It is the rectitude of judgment and sense of propriety, which this education has such a tendency to cultivate, that gives the pub-

* " It may not be improper to state," says Dr R., " that I have had opportunities which can fall to the lot of few, of appreciating the effects of medical education, having been employed for many years in teaching the different departments of medicine to advanced students of the most liberal class."

lic the very best security against all kinds of quackery, vulgar pretensions, and low arts." .

* * * * *

“ Now, I conceive that there is only one remedy for this great evil, and that is, by insisting that every young man, before he is admitted to enrol his name as a Student of Medicine at this University, shall give satisfactory evidence of his having had the advantages of a liberal education—shall shew, by actual examination, that he has a competent knowledge of the classics,—and adduce proof of his having attended a course of Mathematics, Logic, and Moral Philosophy. By this one step, you will do more for the medical character, and give the public a better security for well bred men, than if you clogged education with a dozen new Professorships, and kept the student for twenty years in the trammels of the physical sciences.”

Dr Abercrombie, in a letter to Professor Russell, (dated 12th November 1824) remarks, “ In making a complete revision of the Curriculum of Medical Study, it appears to me, that the improvement which is chiefly wanted, and by which the Senatus may contribute in a most essential manner to raise the character of the medical profession, is, some provision for securing a liberal and extensive previous education in Literature and Science: such an education as shall enable the student to commence his medical studies, with a mind well stored with scientific knowledge, and, in particular, with a mind well trained to habits of correct reason-

ing, and philosophical inquiry. The branches most likely to contribute to this purpose appear to be the Greek and Latin languages, Mathematics, Moral Philosophy, and Logic, Natural Philosophy, and Natural History. I am well aware of the difficulties that would attend such an alteration in the Statuta as this would require ; but I think there are various ways by which the difficulties might be overcome, and there can be little doubt that the result would be, both to elevate the character of the Medical Profession, and to raise the value of the Edinburgh degree, which is already so highly and so deservedly esteemed."

The propriety of requiring some test of preliminary education, from those admitted to the study of Medicine in the University of Edinburgh, was ably argued in three letters inserted into the Caledonian Mercury, in October 1824 *, under the signature of Iatros. " Besides exacting," says Iatros, (Letter 2d), " of the candidate for the Medical Degree, a competent knowledge of the learned languages, it would be well were the Senatus Academicus to require of him also some proofs of proficiency in the different branches of Natural Philosophy and Natural History, an acquaintance with those sciences being fully as necessary to the Physician as the knowledge of Arithmetic and Geometry is to the practical Astronomer. I cannot, therefore, conceive it possible, that the Senate of our University, in revising

* October 7th, 18th, 23d.

the Curriculum, can consent to impose the Study of Chemistry and Botany on the Medical candidate, without including also the other branches of Natural Philosophy and Natural History, equally important for him to know. Dynamics, Pneumatics, Hydrostatics, Optics, Acoustics, Meteorology, and other branches of physics, are surely as indispensable to the right investigation of the structure and functions of the animal economy, as Chemistry can be ; and Zoology, Mineralogy, Hydrology, and other divisions of the course of Natural History, are as intimately connected with Medicine and Materia Medica as is Botany ; so that no good reason can, I apprehend, be assigned for continuing to consider a knowledge of Chemistry and of Botany essentially important to the Physician, which does not equally, if not *a fortiori*, apply to the other branches of Natural Philosophy and Natural History. Chemistry and Botany are no more medical sciences than they ; though Anatomy, Physiology, Pathology, Therapeutics, Pharmacy, and Materia Medica, can neither be adequately taught, nor properly apprehended, without a knowledge of all of them."

How little the qualifications required, by the present Curriculum, of young men entering on the Study of Medicine correspond with those which were considered to be necessary, by the person who had the honour to be appointed by the Town Council in March 1685, the first Professor of Medicine in the University of Edinburgh, and who had a principal share in founding the Royal Col-

lege of Physicians, will appear from a comparison of it with the document referred to in the following note.

“ LEITH, *3d January* 1826.

“ MY DEAR SIR,

“ When the Senatus of our Alma Mater were engaged in reforming the Curriculum of Medical Studies, you and I, in common, I believe, with every one really feeling for the honour and interests of our profession, were anxious chiefly that our University should adopt some plan for securing some portion at least of literary and scientific knowledge to the Candidates for Medical Degrees. We were disappointed; and it is now but too true, that any young man who can afford to run through the Medical Curriculum (however unskilled in letters, and ignorant of philosophy he may be), is entitled to the Doctor's Cap. It was not always thus: our Profession was once entitled to the name of Learned;—and its Doctors displayed a laudable jealousy of the intrusion of the ignorant and illiterate.

“ I have just stumbled upon a very curious Advertisement, in the Edinburgh Gazette for 1706, by Sir Robert Sibbald, in which he announces a Course of Lectures on Natural History and Medicine; and in which also he takes occasion to warn the young men (the Surgeons' and Apothecaries' Apprentices, of course), that he will inscribe no Student in his Album, who cannot produce Certificates from their respective Teachers of a competent knowledge

of Greek and Latin, of the different branches of Philosophy (*omnem Philosophiam*) and of the Elements of Mathematics. Thus, in the beginning of the last century, One hundred and twenty years ago, a Professor of Medicine in Edinburgh would not even allow an ignorant or illiterate Student to enter his Class-Room. He demanded of him a previous acquaintance with the Latin and Greek languages,—with the Mathematics, and the different branches of Philosophy ;—he required, in short, that precursory knowledge of letters and of science of his pupils, which our Senatus does not now think it necessary to demand or require of the Candidate for the Doctor's Degree. His Advertisement is a curiosity, and as you may never have seen it, I transcribe it for your edification.

“ Quod Patriæ charissimæ, et in ea Philiatris, felix faustumque sit.

“ Robertus Sibbaldus, M. D. eques auratus, Deo auspice Historiam Naturalem, et Artem Medicam quam Dei gratia per annos quadraginta tres feliciter exercuit, docere in privatis Collegiis incipiet; mensibus vernalibus hujus anni 1706.

“ Monendos autem censet juvenes harum rerum curiosos, se non alios in Album suum conscripturum quam qui callent Linguas Latinam et Græcam, omnem Philosophiam, et Matheseos fundamenta, quod præceptorum chyrographis testatum vult.”

“ Sir Robert Sibbald was a fool, that is clear. He would have sold more tickets had he been less scrupulous. All the world, however, knows, that Sir Robert was a learned and distinguished physician and naturalist of his day.

“ Yours always,

“ GEORGE KELLIE.”

“ To Dr THOMSON.”

OF the various writings in which the preparatory education of medical men has been discussed and recommended since the publication of the *Methodus Studii Medici* of the illustrious Boerhaave, I shall content myself with referring you to four only. The first is an “ Introductory Lecture on Medical Education, delivered at the commencement of the Annual Course of Lectures on Botany and the Materia Medica in 1801, by Dr Hosack, Professor in Columbia College, New York.”

“ I presume,” says Dr Hosack, “ the greater part of you have entered upon the Study of Physic, prepared with the knowledge of the usual preliminary branches of Classical Education ; that you are acquainted with those languages which are employed as the common vehicles of learning at the present time,—the Greek, the Latin, French and German languages ; that you are acquainted with Belles Lettres, Geography, the Elements of Mathematics, and Natural

Philosophy, together with an Outline of the Faculties of the Mind, and of the history of Human Society. But to those of you who have not yet had opportunities of a regular course of Collegiate Education, and, from your time of life, are still desirous of entering immediately upon Medical Study, I must recommend so to divide your time, that you may appropriate a portion of it to the several subjects I have enumerated, under the direction either of Private Teachers, or of the Professors of the College, as far as your circumstances and several situations will admit. Curiosity, as well as duty, will lead you to subjects of this nature, by which you may not only become better acquainted with your profession, by which you may not only learn the numerous improvements Medicine has received, and is daily receiving, in different parts of the world, but by which you will also add to the natural strength of your understandings, and thus furnish your minds with resources to meet the numerous difficulties you are to expect in the practice of Physic; and be assured, that, in the prosecution of those subjects, whether you are engaged in the Study of Language, the Demonstrations of Geometry, or in examining the Principles of Philosophy, either of mind or matter, you cannot spend an useless hour. The mind, capable of observation and improvement, will find, in these preparatory branches of learning, not only subjects of gratification, but of real use."

This Lecture of Dr Hosack's, it deserves to be remarked,

was addressed to Students collected from all parts of a country, in which the opportunities of acquiring Elementary Education cannot be supposed to be at all equal to those which these kingdoms afford; and yet the attainments which the Professor expects of the American Students are greatly superior to those which the generality of young men entering on the Study of Medicine in this country are known to possess.

The second is a letter from the late Dr Beddoes to the late Sir Joseph Banks, "On the Causes and Removal of the Prevailing Discontents, Imperfections and Abuses in Medicine *." This letter is the more deserving of your attention, that it was intended to point out some of the defects in the system of Medical Education pursued in the University of Edinburgh. The liberal, enlarged and practical view which Dr Beddoes has taken of the subject of Medical Education in this letter, renders the perusal of it as instructive, as the peculiarities, and, perhaps, even the prejudices of his well stored and powerful mind have made it amusing.

The third writing is a Discourse pronounced at the opening of the Faculty of Medicine at Montpellier in November 1815, by M. Prunelle, at that time Professor of Legal Medicine and of the History of Medicine in that

* 8vo, London, 1808; R. Phillips.

University *. This discourse exhibits a luminous and comprehensive view of what ought to constitute the preliminary, as well as the professional, education of young men intended for the practice of Medicine. It is impossible to read a discourse so admirably calculated to direct the studies of those to whom it was addressed, and to inspire them with zeal in the acquisition of knowledge, without wishing that the practice of opening, in a similar manner, the academic session of the different Faculties, were adopted in the Universities of this country.

The last publication to which I shall refer, is a Letter by Dr Anthony Todd Thomson, entitled, “ Thoughts on Medical Education, and a plan for its improvement, addressed to the Council of the University of London.” The object of this letter is to point out to the notice of the Directors of that Institution, the different branches of which a proper medical education, preparatory and professional, should consist; and, particularly, to recommend that the young men who are to be admitted as Students of Medicine, shall be previously examined regarding their attainments in classical literature, and in the elementary parts of Mathematics.

There seems, at present, every reason to believe that the

* Des Etudes du Médecin, de leurs connexions, et de leur Méthodologie. 4to 1816.

different branches of Literature, Science, Philosophy and of Medicine, will be taught at no remote period in the University about to be established in London, upon the most improved plans, and by the ablest Professors. And from the great facilities for the practical study of the different branches of Medicine, which the numerous and extensive hospitals of London will afford to students at that University, its Medical School, in particular, must speedily become a most formidable rival to those of the Scottish Universities. It is obvious, therefore, that the utmost vigilance, activity and talent, will be required on the part of these Institutions, in order to enable them to support their present reputation, and to cope with the London University in usefulness and public favour.

In reference to the qualifications required of those who are admitted to the honors of graduation in the Foreign Universities, I have, in the Hints, alluded to the practice of those of Austria and France.

In a letter, which I had lately the pleasure of receiving from a young friend who graduated in the spring of this year, at the University of Berlin, he mentions, that “ there have been new regulations issued for the taking of degrees in the Prussian Universities. The Students are all to spend four years (eight semestres) at the University ; and,

previous to their medical examination, are to be tried before the Faculty of Philosophy on Languages, Logic, Philosophy, History, and the Natural Sciences."

In the Universities of the Netherlands no student is permitted to attend the Lectures of the Professors of Medicine, without having previously obtained the degree of Candidate in the Mathematical and Physical Sciences. In order to obtain this preliminary degree, students must, *1st*, Undergo an examination in Mathematics, Natural Philosophy, Botany and the Elements of General Chemistry; and, *2dly*, Produce proofs of having attended Lectures on Latin and Greek Literature, and on Logic *.

The slightest comparison of the qualifications in preparatory education required of young men entering on the study of medicine in the Universities of the Continent, with those required by the medical Curricula of this country, must be sufficient to convince you of the great superiority of the continental qualifications, and of the consequent inferiority in literary and scientific attainments of a very large portion of those who receive the degree of Doctor in Medicine from the Scottish Universities. Yet there are perhaps few countries in which this preparatory edu-

* Réglement sur l'Organisation de l'Enseignement Supérieur dans les Provinces Méridionales du Royaume des Pays-Bas. Arrêté par le Roi, le 25. Septembre 1816.

cation can be better or more cheaply attained than in Scotland. I am happy to be able to quote to you, with regard to this matter, the opinion of one whose name must ever continue to reflect the greatest lustre on the country in which he was born, and on the University in which he taught. Dr Adam Smith, in a letter, dated the 20th of September 1774, written to Dr Cullen on the subject of a Memorial transmitted from Edinburgh, complaining of the manner in which the Universities of St Andrew's and Aberdeen confer Degrees in absence, observes, " In the present state of the Scotch Universities, I do most sincerely look upon them, in spite of all their faults, to be without exception the best seminaries of learning that are to be found any where in Europe. They are, perhaps, upon the whole, as unexceptionable as any public institutions of that kind, which all contain in their very nature the seeds and causes of negligence and corruption, have ever been, or are ever likely to be. That, however, they are still capable of amendment, and even of considerable amendment, I know very well ; and a VISITATION is, I believe, the only proper means of procuring them this amendment."

Besides the requisition of a preparatory education from those who are permitted to enter upon the study of Medicine at the Scottish Universities, there is another very obvious and important improvement, capable of being introduced into the plan of medical instruction, to which I feel

assured your attention will be fully directed. I allude to that method of teaching by frequent examinations, as well as by lectures, which was long so advantageously followed by Professor Jardine in the Logic Class of the University of Glasgow, and has been so ably explained by him in his “*Outlines of Philosophical Education.*” But it is unnecessary for me to dwell upon this method of instruction, as its applicability to the teaching of medicine, and the advantages to be derived from its adoption, have been pointed out by the venerable Professor himself, in his Chapter “*On the Extension of this Mode of Teaching to the higher departments of Study in Universities.*”

The interest which I feel in the proper education of medical men, is the only apology I can offer for the liberty I have taken in requesting your attention to the foregoing Observations, and to the annexed “*Hints.*” In the confident hope that your present inquiries will lead to most material improvements in this education in the Scottish Universities,

I have the honour to be,

With the greatest respect,

MY LORDS AND GENTLEMEN,

Your very obedient humble servant,

JOHN THOMSON, M. D.

late Professor of Military Surgery
in the University of Edinburgh.



HINTS, &c.



HINTS

RESPECTING

THE IMPROVEMENT

OF THE

Literary & Scientific Education

OF CANDIDATES FOR THE
DEGREE OF DOCTOR OF MEDICINE

IN THE

UNIVERSITY OF EDINBURGH,

HUMBLY SUBMITTED TO THE CONSIDERATION OF THE

PATRONS AND PROFESSORS OF THAT
INSTITUTION;

BY A

GRADUATE OF KING'S COLLEGE, ABERDEEN,

Edinburgh:

PRINTED FOR DAVID BROWN, ST. ANDREW STREET.

1824.

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GENTLEMEN,

Understanding that it is in contemplation to revise and to improve the *Curriculum*, or course of medical instruction which has been followed for many years in the University of this place, I trust that it will not be deemed presumptuous in one, who feels grateful for the share of education he has received in it, to avail himself of the opportunity which now presents itself, of submitting to your consideration a few observations with regard to Medical Education in general, and with regard to the Literary and Scientific Qualifications which ought to be required of those on whom the honors of the Degree of Doctor in Medicine are conferred.

A century has nearly elapsed since a regular School of Medicine was first opened in the University of Edinburgh, and the numerous benefits which have resulted from this establishment have been long felt and recognized in every part of the civilized world. The Teachers who, during this period, have filled the medical chairs, have, by their talents and labours, and by the judicious improvements in the system of medical instruction which they have successively adopted, raised the fame of this School to the height which it at present

holds, and which it must be the wish of every one connected with the University of Edinburgh to endeavour to support and to perpetuate. The alterations in the system of Medical Education, reported to be at present under the consideration of the *Senatus Academicus*, and the changes proposed to be made in the regulations concerning Graduation, must be regarded by the Medical Profession, and by the Public, as indications of the desire which the present members of the Medical Faculty have to emulate their predecessors, and to maintain the reputation of their school, by adding to the value of the Degrees to be in future conferred by the University.

It will be readily allowed by every one who is in any degree acquainted with Medicine, that to study it as a Science, and to practise it with advantage as an Art, much learning, knowledge and experience are required; and, therefore, that it must be a matter of the highest importance to Society, that young men, who are to apply themselves to the Medical profession, should be well instructed in all those preliminary branches of education which are necessary to the study of Medicine, or calculated to facilitate their progress in it. Indeed, the slightest view of Medical Science is sufficient to shew, that no one can enter, with any prospect of advantage, upon its study, who has not previously acquired some knowledge of the Latin and Greek languages, and of the Mathematical and Philosophical Sciences.

To say nothing of the advantages which young men derive from the discipline of a Classical education, at a period of life in which the powers of the mind require to

be developed, guided and exercised, and in which habits of attention and application are most easily formed, how, it may be asked, is it possible for a student, ignorant of Latin and Greek, to profit by the perusal of a medical book, or to understand a medical lecture? The terms of the medical art have been almost all borrowed from these languages; and it seems impossible to understand properly their meaning, without possessing some knowledge of the sources from which they have been derived.

We cannot enter far into the consideration of the phenomena of the different Functions of the Animal Economy, the branch of medical knowledge which has been termed Physiology, without perceiving, that to understand, or to explain these Functions properly; besides a knowledge of Anatomy and Chemistry, there is required also an acquaintance with Mathematics and Natural Philosophy; for the different motions of the solid parts of the human body can no more be understood properly, without a knowledge of Mechanics, than the composition of these solids can be understood without the knowledge of Chemistry.

“ When we inquire into this subject,” as has been justly remarked by Dr John Gregory, “ we find the human body a machine, constructed upon the most exact mechanical principles. In order, then, to understand its movements, we must be well acquainted with the principles of *Mechanics*. Considering the human body in another view, we find fluids of different kinds circulating through tubes of different diameters; and, therefore, find that the laws of their motions cannot be understood

without a previous knowledge of the principles of *Hydraulics*. In the same way, the eye appears to be a most admirable optic machine; and the phenomena of vision are found to be inexplicable, without a knowledge of the principles of *Optics*. As the human body is surrounded with a heavy, elastic fluid, the Atmosphere, subject to various changes in respect of gravity, heat, moisture and other qualities, which greatly influence the human constitution, it is proper to be acquainted with the nature and properties of this Fluid, which requires a knowledge of the sciences of *Pneumatics* and *Meteorology*. It were easy to adduce," adds this elegant writer, "were it required, many more examples to show how absolutely necessary a knowledge of the various branches of Natural Philosophy is to the right understanding of the animal economy, both in its sound and morbid states."* If these opinions of Dr Gregory are admitted to be just, it seems difficult to conceive why the study of Natural Philosophy should not be considered as equally indispensable to a Medical Education with that of Chemistry.

But besides the possession of a certain degree of knowledge of the Anatomical structure and Chemical composition of the human body,—of the uses of its different parts, and of the various organic functions which these parts perform—there is required also, on the part of the student and practitioner of medicine, an acquaintance with the Sensorial, Intellectual and Moral faculties with which man is endowed,—with the reciprocal influences of his corporeal and mental faculties upon one

* On the Duties and Qualifications of a Physician. p. 84. Edinb. 1788.

another,—and with the changes to which, in the progress of health and disease, these faculties are subject. But how, it may be asked, is this knowledge to be obtained, unless by the study of Logic and of Moral Philosophy?

Setting aside altogether the consideration of the beneficial effects which the study of these Sciences is calculated to produce upon the intellectual powers and moral character of those who engage in it, a knowledge of the Science of Mind, and of every thing which can influence the perceptive, intellectual and moral powers of man, becomes absolutely necessary to him whose duty it often is to judge of the existence of the derangements which so frequently take place in this part of the human constitution, from external injury, from disease, and from the states of fever and madness,—to describe their varieties,—and to conduct their treatment.

There is, if we may be permitted so to speak, an Anatomy, a Physiology, and a Pathology, of the mental as well as of the corporeal part of our frame, forming the branch of science usually denominated Metaphysics, the study of which seems to be indispensably necessary to a due knowledge of the Animal Economy. This important branch of science, requires to be studied by medical men in connection with the observation and investigation of the various physical and vital causes which influence the intellectual part of the human constitution.

It may be hoped, that “the time is come for placing Medicine on a level with the other sciences, and for

determining with precision their mutual relations. Situated between physics and moral philosophy, it is of peculiar importance to discover, and to point out, with clearness and exactness, the true relations which it bears to each of these sciences. It must borrow the strict and precise language of the former, and the liberal, and, as it were, familiar tone of the latter. It must take advantage of all that the intellectual philosophy has most rigorously established in its theories, and of all the delicate illustrations which its daily application to the sensitive frame suggests. In short, after having, by the sure methods of observation, experiment and reasoning, reduced its principles to a regular system, it will be necessary, that the improvements in its plan of instruction should form, for practice, minds at once profound, comprehensive, firm and pliant, who join to the light of a superior understanding, that knowledge of life and manners, and that facility of action, without which all the gifts of nature and of art are almost wholly useless. Happy combination, perhaps even indispensable, for preventing the practice of a science, of which the objects are so various and so delicate, from becoming a mere scourge of humanity*,"

If the slight sketch which has been given of the nature of the preliminary branches of education, requisite for entering with advantage upon the study of Medicine, be just, it must be obvyious that those who are destined

* Cabanis' *Revolutions of Medical Science*, translated by Dr Henderson, p. 5, 6.

for the exercise of the medical profession, by whatever name they are afterwards to be denominated, whether that of Physician, Surgeon or Apothecary, should all receive the same kind of elementary and preparatory education; for it is this only that can enable them to acquire a proper knowledge of the different branches of medical science, that can ensure their mutual co-operation in the practice of their art, or qualify them to discharge, with full utility to the Public, the duties of any particular branch of medical practice to which they may afterwards be induced to devote their attention. The enforcement, therefore, by our Universities, and by the Colleges of Physicians and Surgeons, on those to whom they grant medical and surgical degrees and diplomas, of a due acquaintance with those branches of science which are universally acknowledged to be necessary to the study of Medicine, is the indispensable duty of these bodies, and appears to me to be the greatest reform which the present state of medical education admits of; to be the only proper barrier that can ever be raised by the Medical Profession, or which ought to be recognised by the Public as forming a boundary between the regular and the irregular practitioners of physic;—between Medicine practised as a learned and liberal profession, or followed as an ignoble, degraded and degrading art. The members of the Medical Profession, in order to be respectable, must evince, by their literary and scientific acquirements, that they are indeed worthy of the patronage of the Public, and of the privileges to which medical degrees and surgical diplomas are intended to give them a title.

With regard to the Professional Education of Medical Practitioners, it is unnecessary, I conceive, to employ any arguments to convince you how much Society is interested in their possessing a thorough knowledge of all the different branches of Medicine, and consequently in the proper regulation of the Medical Schools in which this knowledge must be acquired. "The Practice of Medicine," it has been observed,* "has long been nominally divided into two departments, Physic and Surgery. Physic is said to have for its object the treatment of internal, Surgery that of external diseases; and each of these departments of the healing art has been supposed to be the peculiar province of a distinct and differently educated practitioner. But though this is a distinction which has been often recognised in the practice of the medical profession, it must be confessed that the limits between Physic and Surgery are not very precisely marked, and that the respective functions of the Physician and Surgeon, long as those names have existed, are still but very inaccurately defined. The most superficial acquaintance with the symptoms, progress and termination of the various morbid affections to which the human body is liable, must be sufficient to convince every unprejudiced inquirer, that there is but a slight foundation, if indeed there be any, for this distinction, in the nature of the diseases which these practitioners are required to treat, or in the modes of treatment by which the diseases themselves may be cured or relieved. Experience has long shewn, not only that the use of internal remedies is required in a large pro-

• Lectures on Inflammation, by Dr Thomson.

portion of the diseases which are regarded as strictly surgical, but also that there are few diseases which come under the care of the Physician, in which morbid affections, requiring the manual aid or practical skill of the Surgeon, do not frequently occur."

"The importance therefore to Society, of every student of medicine being obliged to obtain, not only a general, but a minute, knowledge of Physic and Surgery, must appear obvious when we reflect how very small a proportion of those who are educated for the medical profession find it possible, in after-life, to devote their attention exclusively to one of these branches, and to forego the advantages which they reap from the practice of the other. It is in great cities only, that the distinction in the exercise of the medical profession, between Physician and Surgeon, has been, or can be, observed: and even in those cities where this distinction has prevailed in the highest degree, how small a portion of the community, it may be asked, has enjoyed the advantages supposed to be derived from this division of the healing art? The rich, it is true, may in all cases of danger, whether real or imaginary, add the attendance of the physician or surgeon to that of their ordinary medical guide, the apothecary: but the middling classes and the poor, who form the greatest body in every community, must either be contented to live and to die without the advice or assistance of those who practice physic and surgery as distinct professions, or betake themselves to some of the asylums or hospitals that are maintained at the public expence. A physician in a large city ought to be regarded as a practitioner, to

whom recourse is to be had in cases of difficulty and danger; but the proper education of this class of practitioners, and the necessity which exists for their having enjoyed opportunities of extensive practice, as well as having gone through a course of academical study, in order to qualify them properly for the duties of consultation, are points which do not seem to have been hitherto fully investigated by the medical profession, or rightly understood by the public."

" In small towns, on the contrary, and particularly in country villages, subdivision of labour in the medical profession is totally inadmissible. In these situations, the customs, convenience, and necessities of their patients do not admit of any distinctions among medical practitioners, which are not immediately derived from a real or fancied superiority of professional skill. But how extensive the practical information is which is required to qualify the village or country practitioner for the duties that he has to perform, will be obvious, when we reflect that he must undertake the cure of all the accidents and diseases to which men, women and children are liable, in the district in which he is to practise. It is this circumstance which renders it so desirable for the Public that every young medical practitioner should be well instructed in all the branches of practical Medicine and Surgery before he leaves College, and, in the commencement of his practice, placed for a time under the superintendence and direction of men older and more experienced than himself. Without the advantages to be derived from this mode of medical instruction, the young practitioner, when he first en-

ters upon the practice of his profession, can supply the want of personal experience, only by the lessons which he obtains from the errors and mistakes he commits, at the hazard or even to the detriment of his patients."

"An arrangement of medical practitioners according to seniority, or implied experience, has long been advantageously followed in the practice of the Army and Navy; and accordingly, a general acquaintance with all the branches of practical medicine is very properly required of those who are educated for these two departments of the public service. In these departments, the distinction between Physician and Surgeon, though occasionally recognised in name, and in particular duty, has never been rigidly carried into effect; for in the Army and Navy of this, as well as of every other country with which I am acquainted, the surgeons, together with their assistants or mates, have been the physicians in ordinary, as well as the apothecaries, of the men whose health and lives are intrusted to their care."

"Since, therefore, in the ordinary and general practice of Medicine, Physic never has been, and never can be, separated from Surgery, it seems but reasonable that those who, from the nature of their profession, and from the circumstances of the situations in which they may be placed, must practise Physic and Surgery together, should learn equally the rudiments of both arts. These arts have had the same origin, and they have the same end: The human body is the sphere of their exertions, and whatever can affect it, in matter, vitality or mind, is the object of their researches."

It is to be presumed, that besides providing for the better preliminary education of Students of Medicine attending the University of Edinburgh, the new *Curriculum* will contain such alterations in the course of the medical studies to be followed, and recommend the institution of such additional Professorships as the present extended state of Medical Science may require. It is of great importance to the Public that you should inquire, whether a division of duties among the members of the Medical Faculty, made a century ago, is at all adapted to the wants and to the condition of the times in which we to live; or calculated to comprehend, and to exhibit to Students, a view, sufficiently complete, of all the discoveries and improvements which have been made in the Theory or in the Practice of Physic, and in those collateral branches of Science, upon the progress of which the advancement of Medicine mainly depends?

The chief of these collateral branches are, undoubtedly, Natural Philosophy, Chemistry, Natural History, and Botany; and it is deserving of your consideration, whether in future these branches should form a separate Faculty of Natural knowledge, or be conjoined with that of Medicine? That the student of Medicine must derive as much benefit from the study of Natural Philosophy and of Natural History, as he possibly can do from that of Chemistry and of Botany, is a point which will I believe be contested by no one who is in any degree acquainted with the relations which these different sciences bear to Medicine.*

* See Boerhaave's "Methodus Studii Medici," Vol. I.

It may be deserving of your consideration, whether this may not be the proper time to introduce some changes into the constitution of the Faculty, strictly Medical? Whether, for example, the duties at present performed by the Professor of the Theory of Medicine, should not be assigned to two distinct Professors at least—Physiology to one, and Pathology to another? The discoveries which have been made, and which are daily making in each of these branches of medicine, are of such extent and importance, as to render it quite impossible, it is conceived, for any Professor, whatever his talents and assiduity may be, to give a sufficient account of either of them, in a period shorter than that which is allotted to the courses of medical lectures in the University of Edinburgh.

It may be worthy of your consideration, also, whether Surgery, a branch of so great extent and importance, should not be taught by a distinct Professor, and that Professor a practical Surgeon?—whether lectures on Clinical Surgery be of less importance to the great majority of those who receive medical degrees in the University of Edinburgh, than lectures upon Clinical Medicine;—and whether the course of Medical Jurisprudence should not be added—as that of Midwifery has lately very properly been, to those Classes, an attendance upon which is necessary for graduation?

In judging of the preparatory and professional branches of knowledge which students should possess on whom medical degrees are conferred by your University, it may be proper for you to inquire into the regulations

relative to Graduation, which have been adopted in other Schools of Medicine, particularly in those in which it has been lately attempted to adapt the Course of medical study to the present state of the Medical Sciences. I shall content myself simply with pointing out the Medical Schools of Austria and France to your notice.

In order to be admitted a Student of Medicine in an Austrian University, it is necessary that the candidate should produce certificates of his having studied for three years, in a Lyceum, the Latin and Greek languages, History, Mathematics, and Natural and Moral Philosophy*. The Course of Medical Study extends to five years, and comprehends lectures on the following Subjects:—

1st year.—Introduction to Medico-Chirurgical Study, and Natural History; Anatomy; and Botany.

2d year.—Physiology; and General Chemistry.

3d year.—General Pathology and Therapeutics; Midwifery; *Materia Medica et Chirurgica*; General and Special Pathology of external Diseases; Ophthalmology; and Demonstration of Surgical Instruments and Bandages.

4th year.—Special Therapeutics of Internal Diseases; Clinical Lectures on Internal Diseases; and Veterinary Medicine.

5th year.—Special Therapeutics of Internal Diseases; Clinical Lectures on Internal Diseases; Medical Jurisprudence; and Medical Police.

• Quarterly Journal of Foreign Medicine and Surgery, vol. i. p. 36.

In France, in conformity with the regulations lately established for the Schools of Medicine in that country*, no one can enter as a student in these schools without producing certificates of his being Bachelor of Letters and of the Sciences, to obtain which it is necessary for him to have studied, in the established colleges, Arithmetic and Geometry, Natural Philosophy, Chemistry and Natural History, Rhetoric and Philosophy.

The course of Medical Study is of four years duration, and comprehends the following branches, each of which is taught by a separate Professor.—

1st year.—Anatomy; Physiology; Chemistry; Medical Natural Philosophy; Botany; and Hygiene.

2d year.—Anatomy; Physiology; External Pathology; Hygiene; Operative Medicine; and Pharmacy.

3d year.—Operative Medicine; External Pathology; Internal Pathology; Clinical Medicine; Clinical Surgery; Therapeutics; and Materia Medica.

4th year.—Clinical Medicine; Clinical Surgery; Internal Pathology; Legal Medicine; Therapeutics; and Midwifery.

Whether any of the reforms which have been made in the preparatory or in the professional education of the Graduates in Austria and France shall appear to

* See the "Code des Médecins, Chirurgiens et Pharmaciens, &c." par J. P. Beullaë. Paris, 1823.

you as proper to be introduced into the new Medical *Curriculum* for the University of Edinburgh, is a matter which must be left entirely to your consideration. But of one thing you may be assured, that, in the present increasing taste for improvement in literary, scientific and professional education which every where prevails, and which at this moment pervades even the working classes of society in Scotland—if it shall appear to the Public that you have declined to introduce the necessary reforms into the Medical Education of your University, these reforms will be attempted by private individuals, countenanced, it is to be hoped, by the Colleges of Physic and Surgery in this place, whose bounden duty it is to provide for the proper education of those who are bred to the medical profession; and to encourage, by all the means in their power, every attempt which is made to extend and to improve this education.

In this country, you have long had before you an example, in another learned profession, of the advantages to be derived, from a preparatory education, in the qualifications which are required of those who are permitted to enter upon the study of Divinity in the different Universities of Scotland. It cannot but be considered as in the highest degree creditable to the Clergy of this country, that, though those who devote themselves to this vocation, neither are from a more wealthy class of society, nor have the prospect of greater emoluments than the members of the other two learned professions, their preparatory education con-

sists of four years regular attendance on a University, and comprehends almost all those branches of knowledge, the necessity of which, in a regular medical education, it is the object of this letter to point out and inculcate. That a similar course of preparatory education should not hitherto have been required of those who enter upon the study of Law or Physic, is a great misfortune to these professions, and the want of it the chief source, perhaps, of whatever has been illiberal, sordid, ignorant or mischievous in the practice of them.

The Schools of Medicine, and the Colleges of Physic and Surgery, which at present exist in Great Britain and Ireland, exhibit many curious anomalies and contradictions in their Statutes and Practices. Indeed, the examination of the different constitutions of these Corporate Bodies is sufficient to shew that they have not been formed upon any general principles or enlarged views of public utility, but that monopoly, or privilege of some sort or other, has always been a main object of their establishment. Their Bye-laws and Statutes have often, it is true, a relation to the practice of the art or trade of Physic, but very little, comparatively, to the promotion of the Science of Medicine, or to the literary, scientific and philosophical Education of those who are to practise it as an art. Some of our Universities claim the right of conferring the highest honours or degrees in medicine, without affording, by any of their institutions, the means of instruction, either in the Theory or in the Practice of Medicine; and our Medical Schools, without, I believe, a single exception,

admit to their lectures all who present themselves, without requiring of them any proofs of their having received a previous literary or scientific education. The Medical Faculty in the University of Edinburgh has hitherto presented a most singular anomaly; for though appearing to be a branch of a literary, scientific and philosophical University, yet it has never required from those on whom it has conferred the degree of Doctor of Medicine, any certificates of qualification, besides attendance upon medical classes in some University; and though itself strictly a Medical School, it has not hitherto admitted the efficacy of any medical instruction which has not been received within the walls of a University. Who could believe, that the lectures which are given in the different Medical Schools of London, for example, have hitherto been of no avail in qualifying a student to receive the honour of a medical degree from the University of Edinburgh? while Courses of lectures on any branch of Medicine, delivered in the Universities of Aberdeen, or St. Andrews, or in any other University at home or abroad, have been held, by the statutes of the Medical Faculty of Edinburgh, to be, in the ceremony of graduation, equivalent in value to their own. Indeed, the members of the Medical Faculty seem hitherto to have forgotten that it is the possession of a sufficient stock of preparatory and of professional knowledge on the part of those who receive Degrees and Diplomas in which the Public is interested, and of very little consequence to it in what Schools this knowledge has been obtained.

In concluding this letter, the writer has only to add, that the opinions which it contains, though hurriedly

put together, are not the hasty suggestions of the moment, but the deliberate result of much observation and reflection on the education of medical men,—on the duties which they have to perform to the Public,—and on the nature and grounds of the distinctions which ought to exist among them. They come from one, who, sensible of the defects of his own education, is very desirous to promote that of the rising members of the medical profession—from one who is no novice in the art which he practises, but who has passed through the several gradations of Surgeon's apprentice; Apothecary's assistant, Surgeon's and Physician's clerk in a public Hospital; Surgeon-apothecary, or Family practitioner; Doctor of Medicine;—and who, by the favour of his medical Brethren, and by the patronage of the Public, is at length a Consulting Physician. They come from one, who, were he a member of the *Senatus Academicus*, should, on an occasion such as the present, feel it to be his duty to express these opinions orally in his place, as he conceives it to be a duty which he owes to the Public to express them in this manner to You.

With every good wish for the increasing reputation and prosperity of the University of Edinburgh, and for the continuance of the usefulness of its Medical School, he has the honor to subscribe himself,

GENTLEMEN,

Your most obedient humble Servant.

A GRADUATE OF KING'S COLLEGE, ABERDEEN.

